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| PG. MAG. | PV. MAG. | COLOR-INDEX |
|----------|----------|-------------|
| 14.49 | 12.92 | +1.57 |
| 14.43 | 13.00 | +1.43 |
| 14.67 | 13.01 | +1.66 |
| (14.86) | (13.27) | (+1.59) |
| Means | 14.53 | 12.98 |
| | | +1.55 |

In forming the means, the fourth pair of values has been rejected because of haze. The color-class is *k*₉. The absolute magnitude, as indicated by van Maanen in the preceding note, is 11.9.

FREDERICK H. SEARES.

NOTE ON NOVA MONOCEROTIS

A photograph of the spectrum of Nova *Monocerotis* taken on March 23rd shows that the nebular bands have increased in intensity relative to the hydrogen bands since the latter part of February. The lack of symmetry in the nebular bands is still very marked, the violet portion being much the stronger. The band at λ 4640, like the hydrogen bands, is relatively fainter on the more recent photograph.

W. S. ADAMS,
A. H. JOY.

NOTE ON THE IDENTIFICATION OF CERTAIN BRIGHT LINES IN THE SPECTRUM OF *o* CETI

A spectrogram of *o Ceti* obtained on March 2nd showed the presence of a number of bright lines not photographed by us previously. Most of these lines have been observed by Stebbins and seem to appear, or at least to become more intense, as the star approaches its minimum of light. Measurements of the negative add a few lines to the list catalogued by Stebbins in his well-known memoir, but the principal interest attaches to the identification of these lines and the evidence afforded by them as to physical conditions in the star. The following bright lines have been measured and their presence seems to be fairly certain. The wavelengths are corrected for the Earth's motion.

| <i>o Ceti</i> | SUN | ELEMENT | Δ | GROUP |
|---------------|---------|---------|----------|----------|
| 4102.44 | 4101.90 | H | +0.54 | |
| 4202.76 | 4202.20 | Fe | 0.56 | <i>b</i> |
| 4216.84 | 4216.35 | Fe | 0.49 | <i>b</i> |
| 4233.92 | 4233.33 | Fe, Mn | 0.59 | |
| 4292.18 | 4291.63 | Fe | 0.55 | <i>a</i> |

| <i>o Ceti</i> | SUN | ELEMENT | Δ | GROUP |
|---------------|-----------|---------|----------|----------|
| 4308.71 | 4308.08 | Fe | 0.63 | <i>b</i> |
| 4341.16 | 4340.63 | H | 0.53 | |
| 4352.86 | (4352.08) | Mg | 0.78) | |
| 4373.22 | | | | |
| 4376.66 | 4376.11 | Fe | 0.55 | <i>a</i> |
| 4427.98 | 4427.48 | Fe | 0.50 | <i>a</i> |
| 4448.86 | | | | |
| 4462.46 | 4461.82 | Fe | 0.64 | <i>a</i> |
| 4571.79 | 4571.27 | Mg | 0.52 | |

The last column gives the classification of the iron lines according to the groups used by Gale and Adams. Groups *a* and *b* on this system denote low temperature lines and *c* and *d* high temperature lines. It is evident that the bright lines appearing in the spectrum of *o Ceti* near minimum of light are lines which are strengthened at low temperatures. The iron line at λ 4233 is an enhanced line, but the presence of manganese makes the identification uncertain.

The bright line in the stellar spectrum at λ 4571, due to magnesium, has been shown by King to be very greatly strengthened at low temperatures. This line is the most intense of any on the photograph with the exception of those due to hydrogen. The identity of the line at λ 4352 is uncertain, a low temperature line of iron at λ 4352.9 perhaps contributing to the stellar line.

The conclusion seems to be justified that the radiating gases in the case of *o Ceti* undergo a reduction of temperature as the star becomes fainter, which leads to the appearance of the lines which are strengthened at low temperatures. It is probable that this conclusion may be applied to the entire class of long-period variables of type Md to which this star belongs.

W. S. ADAMS.

A. H. JOY.

NOTE ON THE REVOLUTION PERIOD OF SIRIUS

The published values for the period of revolution of *Sirius* range from 48.84 years to 52.20 years.¹ The orbits computed by Peters (50.01 years) and by Auwers (49.42 years) were based upon the variable proper motion of the bright star, the others upon micrometer measures of the relative motion of the faint companion. The latest of these orbits is that by Lohse (1908, period 49.32 years), who had at his disposal an observed arc which fell short of one

¹Two obviously erroneous values are excluded.